

Specification

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## DRV80BS The Brain® Digital Recirculation Valve with SAGE®

Category: The Brain®

Type: Digital Recirculation Valve with SAGE®

Model: DRV80BS

**1.0 Digital Recirculation Valve (DRV80)**

- 1.1 DRV shall have four thermistors integral of the mixing valve body that measure the cold-water inlet, hot water inlet, mixed water outlet, and over-temp safety temperatures.
- 1.2 DRV mixing valve body shall be of 316L stainless steel, mixing valve proportioner of 316L stainless steel, and a NEMA 3S electronics enclosure.
- 1.3 DRV80 shall have 3" inlets and outlet connections that will deliver 94 gpm @ 5 psid.
- 1.4 DRV shall be capable of +/- 2°F control during high, low or extended periods of zero system demand with a continuous recirculation of >10 gpm. Temperature control shall be achieved without aquastat-like control of the recirculation pump.
- 1.5 DRV setpoint shall be configured by the factory to customer specification. DRV shall also be field adjustable.

**2.0 DRV80 shall have the following operational specifications:**

- 2.1 +/- 2°F water temperature control
- 2.2 1°F minimum return differential
- 2.3 Minimum continuous recirculation of 10 gpm
- 2.4 Automatic shutoff of hot water flow upon cold water inlet supply failure
- 2.5 Automatic shutoff of hot water flow in the event of a power failure
- 2.6 Programmable set point range of 81-158°F (27-70°C)
- 2.7 Programmable thermal disinfection mode
- 2.8 Programmable 1st level hi/lo temp alert display
- 2.9 Programmable temperature error level for safety shutdown

**3.0 DRV with SAGE® (BS) shall have the following connectivity specifications:**

- 3.1 DRV shall be supplied with SAGE® Building Automation System (BAS) Interface Module

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- 3.2 SAGE® shall connect to BAS via Modbus, BACnet or LonWorks protocol
- 3.3 SAGE® shall receive and communicate the following inputs:
  - 3.3.1 All DRV Integral Thermistor Readings
  - 3.3.2 External Temperature Readings (up to 4)
  - 3.3.3 External Pressure Readings (up to 3)
  - 3.3.4 External Flow Rates (up to 2)
- 3.4 SAGE® shall receive and communicate the following self-diagnostic error messages
  - 3.4.1 Over Temperature Error
  - 3.4.2 PCB Error
  - 3.4.3 Thermistor Error
  - 3.4.4 Motor Error / Emergency Mode
  - 3.4.5 Battery Error
- 3.5 SAGE® shall be configured for enabling subscription cloud based (separate fee) remote connectivity
- 4.0 DRV shall be certified to ASSE 1017, UL listed, and conform to CSA B125.
- 5.0 Warranty
  - 5.1 DRV shall have a 5-year all components warranty, with exception of batteries and O-rings.
  - 5.2 Pre-piped DMC components shall have a 2-year warranty from date of installation, but not longer than 27 months from date of shipment.